Electronic Version

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Claims

[c1] What is claimed is:

1.A wire feeder comprising:

an output connectable to a gun assembly; and

a controller configured to automatically determine a type of gun assembly connected to the output.

[c2] 2.The wire feeder of claim 1 further comprising a motor assembly configured to deliver a consumable electrode to a weld when the gun assembly is activated.

[c3] 3.The wire feeder of claim 2 wherein the controller is further configured to determine gun assembly type based on an impedance of a motor assembly in the gun when the gun assembly is first activated.

[c4] 4.The wire feeder of claim 3 wherein the controller is further configured to determine gun assembly type when a trigger of the gun assembly is depressed.

[c5] 5.The wire feeder of claim 3 wherein the controller is further configured to determine gun assembly type when a serial communication link is established with a power source or wire feeder.

[c6] 6.The wire feeder of claim 3 wherein the controller is further configured to compare the impedance to a look-up table of impedance values to determine gun assembly type.

[c7] 7.The wire feeder of claim 2 wherein the motor assembly is further configured to deliver a consumable electrode to the weld at a constant speed if a four-pin connector is connected to the output.

[c8] 8.The wire feeder of claim 7 wherein the motor assembly is further configured to deliver a consumable electrode to the weld at a constant torque if a ten-pin connector of the gun assembly is connected to the output.

[c9] 9.The wire feeder of claim 8 wherein the controller is further configured to cause a motor in the gun assembly to deliver a consumable electrode to a weld at a constant speed if a ten-pin connector of the gun assembly is connected to the output.

[c10] 10.The wire feeder of claim 1 wherein the output is further configured to receive a connector of a MIG welding gun, a spool gun, or a push-pull welding gun.

[c11] 11.A controller for a welding-type system, the controller configured to:
detect an impedance of a motor assembly designed to

deliver welding wire to a weld;
from the impedance, determine a type of load placed on the motor assembly; and
based on the type of load, automatically set an output mode of the motor assembly.

[c12] 12.The controller of claim 11 wherein the type of load is indicative of a gun assembly operationally connected to the motor assembly.

[c13] 13.The controller of claim 11 wherein the output mode includes one of constant speed mode and constant torque mode with at least one feedback path to the motor assembly.

[c14] 14.The controller of claim 13 further configured to set the output mode to the constant speed mode if the type of load is a spool-type gun.

[c15] 15.The controller of claim 13 further configured to set the output mode to the constant speed mode if the type of load is a push-pull type welding gun.

[c16] 16.The controller of claim 11 further configured to determine a number of pins in a connector of a welding gun operationally connected to a wire feeder having the motor assembly disposed therein.

[c17] 17.A method of controlling operation of a wire feeder, the method comprising the steps of:
determining configuration of pins in a connector connecting a welding gun assembly to a wire feeder; and
from the configuration, automatically setting an output mode of a motor assembly in the wire feeder.

[c18] 18.The method of claim 17 further comprising the step of determining an impedance on a gun motor assembly disposed in the welding gun assembly and setting an output mode of the gun motor assembly based on the impedance.

[c19] 19.The method of claim 18 wherein the output mode of the gun motor assembly includes a constant speed mode if the impedance matches that of a spool gun.

[c20] 20.The method of claim 18 further comprising the step of setting the output mode of the motor assembly to a constant torque mode if the configuration of pins corresponds to a push-pull welding gun assembly.

[c21] 21.The method of claim 20 further comprising the step of setting the output mode of the gun motor assembly to a constant speed mode if the configuration of pins corresponds to a push-pull welding gun assembly.

[c22] 22.A wire feeder comprising:

means for determining a type of welding gun connected to deliver welding wire to a weld; and

means for automatically setting an output mode of a motor drive assembly based on the type of welding gun.